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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,245	04/14/2004	Girsh Blumberg	5	6422

7590 06/20/2005

Lucent Technologies Inc.
Docket Administrator
Room 3J-219
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

WONG, TINA MEI SENG

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,245

Applicant(s)

BLUMBERG, GIRSH

Examiner

Tina M. Wong

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-21 is/are allowed.
- 6) ☒ Claim(s) 1,8,9,22,23 and 25 is/are rejected.
- 7) ☒ Claim(s) 2-7 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/14/04, 6/8/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Drawings

The drawings are objected to because: In Figure 5A, reference numeral 72, the word “untapered” appears to be a typographical error. The word should read “untapered”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 25 is objected to because of the following informalities: On line 2 of claim 25, the first “receiving” appears to be a typographical error. It appears the word should read “receiver”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 8, 9, 22, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,236,783 to Mononobe et al.

In regards to claims 1 and 8, Mononobe et al discloses an optical fiber (10) having a tapered portion (13) with a lateral surface and an end face, a metal layer (14) located on a portion of the lateral surface of the tapered portion of the optical fiber, where the tapered portion and metal layer are configured to generate surface plasmons (Column 14, Lines 59-65). (Figure 3) But Mononobe et al fails to specifically disclose the metal layer to be an electrically conductive layer. However, Applicant discloses in the Specification (Page 4, Lines 8-10) the electrically conductive layers to be formed on metals such as gold, silver and/or platinum. Furthermore, Mononobe et al also discloses the metal layer to be made of gold, silver or platinum. Since the inherent property of each metal is constant and both Mononobe et al and Applicant disclose the metal layer to be formed of the same materials, it would have been obvious at the time the invention was made to a person having ordinary skill in the art for the metal layer to be an electrically conductive layer.

In regards to claim 9, Mononobe et al discloses the optical fiber probe to be used in a scanning probe microscope. But Mononobe et al fails to explicitly disclose the scanner to be able to move the endface of the fiber across a sample. (Figure 15) However, it would be

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desirable to be able to move the endface of the fiber probe across a sample in order to view the sample through a microscope. Furthermore, when viewing a sample, samples could be sensitive to movement or should not be moved in order to obtain a more accurate viewing of the sample. In order to eliminate the need for movement, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have been able to move the fiber optic probe via a mechanical scanner.

In regards to claim 22, Mononobe et al discloses receiving light at one end of the optical fiber, converting a portion of the received light into surface plasmons. But Mononobe et al fails to explicitly state reconvertng a portion of the surface plasmons into output light. However, it would be desired for the output light of surface plasmons to reconvert to an optical output since the output light would be directed to an output source. (Figure 15) Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have reconverted a portion of the surface plasmons into output light.

In regards to claim 23, Mononobe et al discloses the surface plasmons to propagate along the surface of the metal layer.

In regards to claim 25, Mononobe et al discloses the optical fiber to be tapered and the receiver receives a light from the endface of the optical fiber, or receives a light from an untapered portion of the optical fiber. (Figure 15)

Allowable Subject Matter

Claims 2-7 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record fails to disclose or reasonably suggest

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an array of structures configured on an electrically conducting layer/ metal layer to convert a portion of the surface plasmons into light that propagates out the a tapered portion in addition to the accompanying features of the independent claim and the intervening claims. The closest prior art to Mononobe et al was relied upon in the rejection set forth above.

JDL Claims 10-²¹~~19~~ are allowed. The prior art of record fails to disclose or reasonably suggest an array of structures configured on an metal layer/ metal film to convert a portion of the surface plasmons into light that propagates out the a tapered portion. The closest prior art to Mononobe et al was relied upon in the rejection set forth above.

Prior Art

The documents submitted by applicant in the Information Disclosure Statements have been considered and made of record. Note attached copies of forms PTO-1449. However, pending applications 10/838,594 and 10/350,780 have not been considered. Pending applications are not published to the public and therefore is not considered. Furthermore, none of the documents submitted by Applicant discloses or reasonably suggests the allowable subject matter discussed above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B-E all discuss tapered optical fibers with electrically conductive layers or metal layers. None of the documents cited by the Examiner discloses or reasonably suggests the allowable subject matter discussed above.

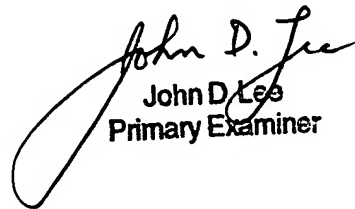
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TMW



John D. Lee
John D. Lee
Primary Examiner